Garlic

Other common name(s): garlic clove, garlic powder, garlic oil, allium, allyl sulfides, ajoene

Scientific/medical name(s): *Allium sativum*

Description

Garlic is a member of the lily family and is closely related to onions, leeks, and chives. Extracts and oils made from garlic are sometimes used as herbal remedies.

Overview

Garlic is currently under study for its ability to reduce cancer risk. However, there is not enough evidence at this time to support eating large amounts of garlic or taking garlic supplements for cancer prevention. Garlic may have the potential to interfere with anesthesia or other medicines. It is reasonable to include garlic as part of a balanced diet, unless one has a particular health problem or is taking medication that has been shown to be adversely affected by garlic.

How is it promoted for use?

Garlic and garlic supplements are sometimes promoted to prevent or treat cancer. Several compounds in garlic may have anti-cancer properties, but compounds of one type in particular—the allyl sulfur compounds—are said to play a major role. These compounds reportedly help the body get rid of cancer-causing chemicals and help cause cancer cells to die naturally, a process called apoptosis. There have also been claims that garlic has immune-boosting properties that may reduce cancer cell growth and help the body fight off diseases such as colds or the flu. These claims are currently being studied.

Proponents claim garlic can be used to treat bacterial, yeast, fungal, and parasitic infections and can be used to treat high blood sugar levels. They also say it has properties that may help stomach and abdominal problems. Garlic has also been claimed to reduce risk of heart disease, lower cholesterol, and reduce blood pressure.

What does it involve?

Garlic is a vegetable commonly used to enhance the flavor of foods. Extracts of garlic are also sold as dietary supplements in health food stores, drug stores, and over the Internet.

There is much debate about what form and amount of garlic to use to influence health. Proponents disagree as to whether garlic is more helpful when eaten either raw or cooked, or whether garlic extracts, powders, and oils available in tablet form are more or less effective.

Garlic is on the Commission E (Germany’s regulatory agency for herbs) list of approved herbs. They suggest a dosage of fresh garlic equal to 4 grams per day (or about one large clove per day) to help reduce heart disease risk.

What is the history behind it?

Garlic has been used in cooking throughout recorded history in many cultures around the world, especially those in the Orient, Middle East, and the Mediterranean. Garlic is believed to be one of the first cultivated plants, with cultivation thought to have started about 5,000 years ago in the Middle East. Garlic has also been used medicinally for thousands of years and continues to be popular today.
What is the evidence?

Several studies from around the world have found that people who eat more garlic seem to have a lower risk of certain types of cancer. In particular, large human studies that looked at diet and cancer have suggested that people who eat more garlic have a lower risk of stomach, prostate, mouth and throat, kidney, and colorectal cancer. The effect on risk of breast, bladder, ovarian, and lung cancers is less clear. As always in population-based studies, it is possible that other factors may account for the differences in cancer risk. The few human studies that have looked at garlic supplements have not found them to be helpful against cancer.

Many laboratory studies done in cell cultures and animals suggest garlic may help reduce tumor growth. Cell culture studies have shown garlic can help cancer cells die off normally, a process called apoptosis. Other studies in cell cultures have found that substances in garlic seem to be able to act as antioxidants. Some studies have also suggested that garlic can act against Helicobacter pylori, a bacterium thought to be a major cause of stomach cancer. Studies in laboratory animals have found garlic may help protect against cancer of the colon, skin, liver, and breast, among others.

Although results of some observational studies are encouraging, randomized clinical trials in which people assigned by researchers to receive either garlic or an inactive control substance provide more reliable information. Very few studies of this type have studied garlic and cancer risk. In one recent study conducted in China, where stomach cancer is quite common, aged garlic extract and steam-distilled garlic oil did not prevent this disease.

While some research on garlic is promising, it is very hard to determine the exact role a particular food may have against cancer. It is even more difficult when the food in question is often used in small amounts, as is garlic. A balanced diet that includes 5 or more servings a day of fruits and vegetables along with foods from a variety of other plant sources such as nuts, seeds, whole grain cereals, and beans is likely to be more effective than eating one particular food in large amounts.

Some studies suggest that garlic can lower blood cholesterol levels, although a recent clinical study funded by the National Center of Complementary and Alternative Medicine did not confirm any effect. This California study compared raw garlic with aged garlic extract, powdered garlic, and a placebo in nearly 200 randomly assigned volunteers. The garlic was given in doses of 4 grams per day over 6 months. At the end of the study, there was no significant difference in LDL (“bad”) cholesterol among the 4 groups. Other studies suggest that garlic makes blood less likely to form clots, which might help prevent heart disease and stroke. However, there is no reliable direct clinical evidence that garlic can actually prevent heart attacks or strokes. Evidence on garlic and blood pressure is mixed.

Are there any possible problems or complications?

This product is sold as a dietary supplement in the United States. Unlike drugs (which must be tested before being allowed to be sold), the companies that make supplements are not required to prove to the Food and Drug Administration that their supplements are safe or effective, as long as they don't claim the supplements can prevent, treat, or cure any specific disease.

Some such products may not contain the amount of the herb or substance that is written on the label, and some may include other substances (contaminants). Actual amounts per dose may vary between brands or even between different batches of the same brand.

Most such supplements have not been tested to find out if they interact with medicines, foods, or other herbs and supplements. Even though some reports of interactions and harmful effects may be published, full studies of interactions and effects are not often available. Because of these limitations, any information on ill effects and interactions below should be considered incomplete.

Eating large amounts of garlic may lead to irritation of the digestive tract, causing stomach pain, gas, and vomiting.

Some research suggests that garlic may increase the risk of bleeding due to its anti-clotting properties. It should not be used by people who will be having surgery soon, especially if they are given blood thinners or if bleeding after surgery is a concern. People on blood thinning medications, such as warfarin (Coumadin) or aspirin, should consult with their doctor.
before taking garlic supplements.

Garlic seems to affect enzymes in the liver that help remove certain drugs from the body. This may result in reduced levels of some drugs in the body, which could be especially important in people undergoing chemotherapy. This is currently under study, but people thinking about taking garlic supplements should speak with their doctor first.

Relying on this type of treatment alone and avoiding or delaying conventional medical care for cancer may have serious health consequences.

**Additional Resources**

**More information from your American Cancer Society**

The following information on complementary and alternative therapies may also be helpful to you. These materials may be found on our Web site (www.cancer.org) or ordered from our toll-free number (1-800-ACS-2345).

- Guidelines for Using Complementary and Alternative Methods
- How to Know What Is Safe: Choosing and Using Dietary Supplements
- The ACS Operational Statement on Complementary and Alternative Methods of Cancer Management
- Complementary and Alternative Methods for Cancer Management
- Placebo Effect
- Learning About New Ways to Treat Cancer
- Learning About New Ways to Prevent Cancer

**References**


Note: This information may not cover all possible claims, uses, actions, precautions, side effects or interactions. It is not intended as medical advice, and should not be relied upon as a substitute for consultation with your doctor, who is familiar with your medical situation.

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